

In the Abstract:

**ABSTRACT OF THE DISCLOSURE**

~~Disclosed are~~ A frame for multiplexing multi-traffic frames of layers 1 to 3 on a same carrier wave and an apparatus thereof.

A frame 400 is constituted ~~of~~by an overhead 410 and a payload 420. The overhead 410 is constituted ~~of~~by: a data length identifier 430 indicating a frame or a payload length; a flow identifier 440 indicating an attribute of the frame 400; and a frame header overhead error check (FHEC) 450 storing a result obtained by converting bytes from the head to a specified M-th byte of the frame 400 into a numerical value of n bytes according to a certain coding method. ~~As for a length of the payload 420, up to~~ A maximum length of the payload is computed from the data length identifier 430 of the overhead ~~can be stored~~. In the payload 420, ~~traffics~~traffic for the layers 1 to 3 can be accommodated. Even if the ATM cell and the frame 400 are multiplexed, since coding methods for the FHEC 450 and the HEC are different, the ATM cell and the frame 400 can be extracted individually.